DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge Program
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December 28, 2007

Contract No. 04-0120F4
04-SF-80-13.2 / 13.9
Self-Anchored Suspension Bridge
Letter No. 05.03.01-001064

Michael Flowers
Project Executive
American Bridge/Fluor Enterprises, a JV
375 Burma Road
Oakland, CA 94607

Dear Michael Flowers,

Submittal 345R1 - Tower Anchorage Fabrication Procedure

The Department has completed the review of Submittal ABF-SUB-000345R01, "Tower Anchorage Fabrication Procedure," dated December 12, 2007. The submittal is "Returned for Correction," as indicated on the attached drawings and as outlined by the following comments. However is has been agreed that sheet numbers FP-MUE-01 through FP-MUE-11 and FP-MUE-14 through FP-MUE-21 can be considered "Approved as Noted," for use in fabrication.

CATEGORY A:

1. **Section 6, "Pylon Forming, Machining" (Sheets FP-MUE-12 through 13):**
    a. Milling the completed anchorage tower leg component, as shown on sheet FP-MUE-12, will make the assembly bear properly. Although it is shown that the bearing stiffeners will be milled along with the skin plates, no corresponding step is shown for the shear plate assemblies complete with stiffeners. A procedure for milling the shear plate assemblies shall be included.

2. **Section 9, "Overall Assembly" (Sheets FP-MUE 22 through 24-2):**
    a. Provide a detailed and specific sequence for welding the tower shaft to the base plate to address distortion control and accessibility issues. For example, does the Contractor intend to weld the stiffeners or the skin plate to the base plate first?
    b. The Contractor has mentioned in "Responses to CT Comments," that a temporary diaphragm is to be used at the end of the tower shaft. Include this in the fabrication procedure. The location/elevation of the temporary diaphragm should be illustrated, and steps for installation and removal of the diaphragm should be added.
    c. The tolerance for the location of the tower anchorage stiffeners Type 1 and 2 is +/- 3mm. The procedure should indicate reference points and include references to the Dimension Control Plan to show that this tolerance will be addressed.

3. **General:** Sheets FP-MUE-12 and FP-MUE-13, Steps 3.0 through 4.8, and sheet FP-MUE-24-2, Steps 8.9 through 9.5, are not sufficient to demonstrate the proposed fabrication sequence as it pertains to using the State furnished template (now with ZPMC) and the State furnished field template (which will be shipped to ZPMC soon). They should describe in detail how the

locations of anchor rods and dowels will be transferred to the base plate and how the tolerances for those locations will be met. The sheets shall be revised to include the comments below:

a. This procedure has no mention of the State furnished field template. Please demonstrate in the procedure how the information on the field template will be transferred to the tower base plate.
b. The four tower shafts must match to the correct locations on the State furnished template. For example, the South shaft must be matched to the portion of the State furnished template that corresponds to the South quadrant of the as-built foundation. Please demonstrate how this will be accomplished with means such as piece-marking on the tower shafts, base plates, shear plates, etc.
c. Step 4.2 states that oversized holes will be drilled in the platform. Please indicate how the location of these holes will be established.
d. The "centerline markings" on the State furnished template do not coincide with the centerline of the Bridge (CL Bridge). Please indicate how these offsets will be accounted for. Please refer to ABF-RFI-665.
e. The State furnished template consists of a 25mm template with 13mm washers on top, and 203mm stiffeners supported by 574mm pipes on the bottom. In Step 4.5, the illustration appears to indicate that the template is a single plate placed flushed against the platform, which is not correct. Please indicate how the washers and the stiffener/ pipe assembly will be accounted for when transferring the holes from the template to the platform.
f. FP-MUE-24-2: Steps 8.9 through 9.5: Please indicate the orientation of the base plate and the platform when the holes are drilled. Are the holes match-drilled? What is the diameter of the oversized hole in the platform? How will the tower base plate hole diameter per Plan be achieved?

CATEGORY C:

1. It is understood that the bearing stiffener plates type 1 are referred to in this procedure as "longitudinal stiffeners." To avoid confusion, the Department suggests using language that is more consistent with the Contract Plans.

2. To avoid confusion, the template provided by Caltrans should be referred to as the "State furnished template." The additional template, which contains the 8 missing dowel locations and 4 anchor rod locations, should be referred to as the "State furnished field template."

3. In accordance with ABF-RFI-000860, the width of numerous bearing stiffener plates type 1 may be extended to suit the Contractor's means and methods. Please keep in mind that those extensions will project beyond the edges of the base plate, and may affect the fabricator's shop practices.

4. Incorporation of 9m and 13m diaphragms are not shown in any fabrication procedure submitted thus far. It would be useful to show the sequence of fabrication of those elements in this procedure.

Sincerely,

<<< ORIGINAL SIGNED >>>

GARY PURSELL
Resident Engineer

Attachment

cc: Rick Morrow, Mark Woods
file: 05.03.01, 55.0345